Ricoh Aficio SP 4100N

BUYERS LABORATORY INC. Lab Test Report

A Comprehensive BLI Laboratory Evaluation

Ricoh Aficio SP 4100N

31 PPM Laser Printer

Test duration: Two months, including a 75,000-impression durability test.

Reliability	Excellent
Administrative Utilities	Excellent
Feedback to Workstations	Very Good
Ease of Network Setup	Very Good
Print Drivers	Excellent
Applications Compatibility	Excellent
Image Quality	Very Good
Productivity	Very Good
Ease of Use	Very Good
Feature Set	Very Good
Toner Yield	Excellent
Cost per Page	1.111¢
Value	Very Good

Manufacturer's recommended monthly volume: Up to 150,000 impressions.
BLI's recommended monthly volume for optimum performance: Up to 25,000 impressions.
More information on the Ricoh Aficio SP 4100N is available through bliQ (www.buyerslab.com/bliQ).

LAB TEST

BLI RECOMMENDATION

Proving itself to be an excellent choice for small to mid-size workgroups, the Ricoh Aficio SP 4100N, a 31-ppm printer supporting up to legal-size output, provided an exceptional overall performance during BLI's two-month evaluation. In addition to being highly reliable, completing its 75,000-impression test without experiencing a single misfeed and with no service calls required, the Aficio SP 4100N provides very good quality output and very good ease of use.

Offering resolution modes of 600 x 600 and 1200 x 600 dpi, the Aficio SP 4100N produced output that was very good overall. BLI technicians cited text that was crisp and cleanly formed; circular lines that were smooth and of consistent line weight; and diagonal lines that were smoothly formed, with no stair-stepping evident. However, halftones were visible over a narrower range than would be expected for a printer in this class and transitions between some levels were not distinct.

ALSO INSIDE

- *Test Procedures*
- *Specifications*
- *Certificate of Reliability*

Ratings scale: Excellent, Very Good, Good, Fair and Poor.

This report has been reproduced with the written permission of Buyers Laboratory Inc. Any duplication of this report, in whole or part, in any form or manner, without the written permission of Buyers Laboratory, is unlawful and violators will be prosecuted. © 2007 Buyers Laboratory Inc. To purchase reprints, contact BLI at (201) 488-0404 (x17) or at info@buyerslab.com.

The Aficio SP 4100N was also easy to use from the desktop via the well-laid-out print drivers. Further enhancing ease of use is the very good feedback on device and print job status provided by the SmartDeviceMonitor utility. SmartDeviceMonitor for Admin allows the administrator to create groups of printers, lock the control panel, configure printer settings and monitor the Ricoh Aficio SP 4100N, as well as any other Ricoh or non-Ricoh device on the network—printer or multifunctional—with an embedded Web page. In addition, Web Image Monitor, the embedded Web page, offers device status information such as the amount and size of paper in the drawers, the amount of toner remaining and a temporary job history, as well as a listing of current settings and error messages.

Because of its very good output quality, strong reliability and thorough administrative utilities, the Ricoh Aficio SP 4100N is highly recommended by BLI for mid-size workgroups with monthly print volumes of up to 25,000 impressions.

PERFORMANCE OVERVIEW

+, – and ○ represent positive, negative and neutral attributes, respectively.

RELIABILITY

EXCELLENT

+ The Ricoh Aficio SP 4100N is certified highly reliable by BLI, completing a 75,000-impression durability test with no service calls required and without any misfeeds.

ADMINISTRATIVE UTILITIES

EXCELLENT

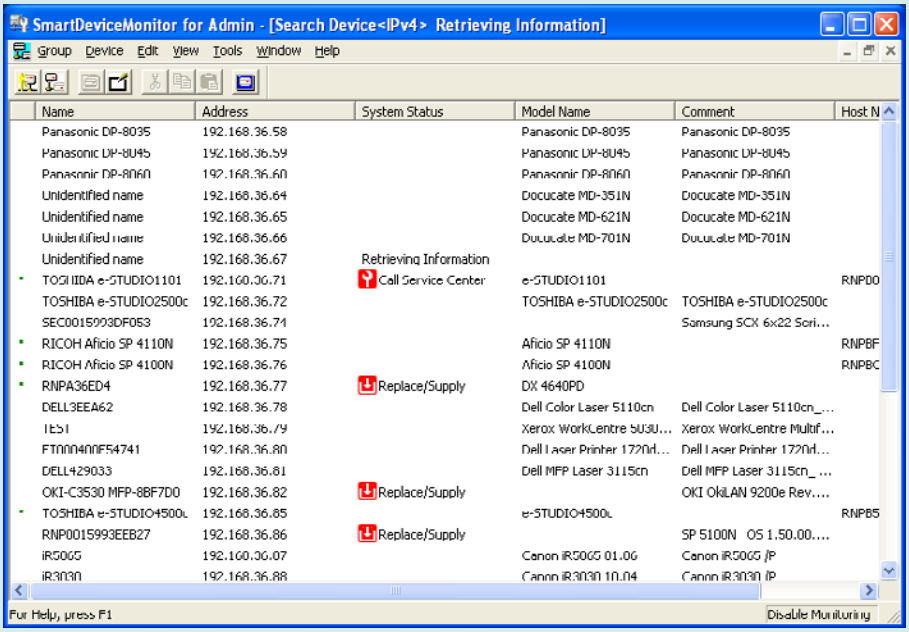
+ SmartDeviceMonitor for Admin allows the administrator to create groups of printers, lock the control panel, configure printer settings and manage the Ricoh Aficio SP 4100N, as well as any other Ricoh or compatible non-Ricoh device on the network—printer or multifunctional—with an embedded Web page.

+ Web Image Monitor, the embedded Web page, offers device status information such as the amount and size of paper in the drawers, the amount of toner remaining and a temporary job history, as well as a listing of current settings and error messages. The Administrator mode of the embedded Web page, which is password-protected to ensure only authorized users can make changes to the device, allows the administrator to view information

LAB TEST

This report has been reproduced with the written permission of Buyers Laboratory Inc. Any duplication of this report, in whole or part, in any form or manner, without the written permission of Buyers Laboratory, is unlawful and violators will be prosecuted. © 2007 Buyers Laboratory Inc. To purchase reprints, contact BLI at (201) 488-0404 (x17) or at info@buyerslab.com.

on device status and make changes to configuration settings, as well as set up e-mail alerts to notify specified users of error and warning conditions.


SmartDeviceMonitor for Admin - [Search Device<IPv4> Retrieving Information]
Group Device Edit View Tools Window Help
Name Address System Status Model Name Comment Host N
Panasonic DP-8035 192.168.36.58 Panasonic DP-8035 Panasonic DP-8035
Panasonic DP-8045 192.168.36.59 Panasonic DP-8045 Panasonic DP-8045
Panasonic DP-8060 192.168.36.60 Panasonic DP-8060 Panasonic DP-8060
Unidentified name 192.168.36.64 Docucate MD-351N Docucate MD-351N
Unidentified name 192.168.36.65 Docucate MD-621N Docucate MD-621N
Unidentified name 192.168.36.66 Docucate MD-701N Docucate MD-701N
Unidentified name 192.168.36.67 Retrieving Information
TOSHIBA e-STUDIO1101 192.168.36.71 Call Service Center e-STUDIO1101 RNPD0
TOSHIBA e-STUDIO2500c 192.168.36.72 TOSHIBA e-STUDIO2500c TOSHIBA e-STUDIO2500c
SEC0015993DF053 192.168.36.74 Samsung SCX 6x22 Seri...
RICOH Aficio SP 4110N 192.168.36.75 Aficio SP 4110N RNPBF
RICOH Aficio SP 4100N 192.168.36.76 Aficio SP 4100N RNPBC
RNPA36ED4 192.168.36.77 Replace/Supply DX 4640PD
DELL3EEA62 192.168.36.78 Dell Color Laser 5110cn Dell Color Laser 5110cn_...
TEST 192.168.36.79 Xerox WorkCentre 5030... Xerox WorkCentre Multif...
FTN004N0F54741 192.168.36.80 Dell Laser Printer 1720dn... Dell Laser Printer 1720dn...
DELL429033 192.168.36.81 Dell MFP Laser 3115cn Dell MFP Laser 3115cn_ ...
OKI-C3530 MFP-8BF7D0 192.168.36.82 Replace/Supply OKI OkiLAN 9200e Rev....
TOSHIBA e-STUDIO4500c 192.168.36.85 e-STUDIO4500c RNPB5
RNP0015993EEB27 192.168.36.86 Replace/Supply SP 5100N OS 1.50.00....
iR5065 192.168.36.87 Canon iR5065 01.06 Canon iR5065 /P
iR3030 192.168.36.88 Canon iR3030 10.04 Canon iR3030 /P
For Help, press F1
Disable Monitoring

SmartDeviceMonitor For Admin – Device Discovery

+ Ricoh also provides plug-ins for HP Web Jetadmin so that users of this popular network device management utility can use it to manage their Ricoh devices, as well.

+ Web SmartDeviceMonitor is available for free download from the Ricoh Web site. Web SmartDeviceMonitor allows administrators to discover, monitor and manage Ricoh and compatible non-Ricoh devices on the network via a standard Web browser without needing to install additional software.

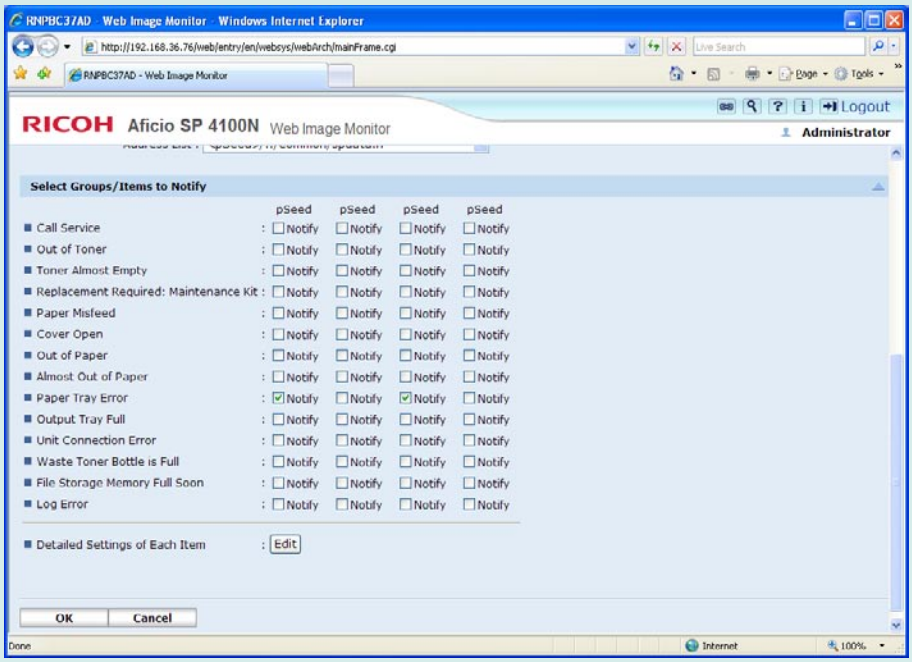
FEEDBACK TO WORKSTATIONS

VERY GOOD

+ Users can receive pop-up messages via the SmartDeviceMonitor utility. The "Extended Features" selection of SmartDeviceMonitor enables the user to specify the conditions to monitor and when notification via pop-up windows is desired. The selections available are: "Notify of printout/data transmission," which launches a pop-up window whenever a print job is sent and upon completion of a job; "Notify of printout/data transmission cancellation" and "Notify when errors occur while printing."

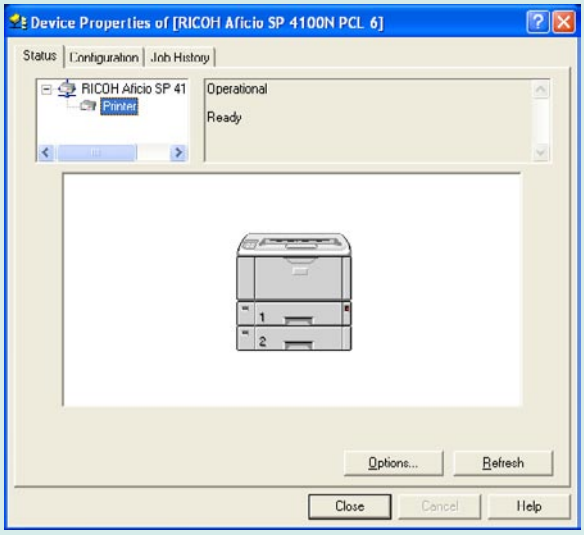
+ Users can also choose to receive e-mail alerts for specified error conditions and events; a wide variety of events can be selected for up to four specified users via the embedded Web page.

This report has been reproduced with the written permission of Buyers Laboratory Inc. Any duplication of this report, in whole or part, in any form or manner, without the written permission of Buyers Laboratory, is unlawful and violators will be prosecuted. © 2007 Buyers Laboratory Inc. To purchase reprints, contact BLI at (201) 488-0404 (x17) or at info@buyerslab.com.



Web Image Monitor – E-Mail Alert Configuration Screen

+ Further information on device status is available if the user right-clicks on the SmartDeviceMonitor icon on the taskbar tray (the menu shows each of the drivers associated with SmartDeviceMonitor). If the user selects one of the drivers, the Properties screen for that driver will open and display information on device status, device configuration and job history.



SmartDeviceMonitor For Client

This report has been reproduced with the written permission of Buyers Laboratory Inc. Any duplication of this report, in whole or part, in any form or manner, without the written permission of Buyers Laboratory, is unlawful and violators will be prosecuted. © 2007 Buyers Laboratory Inc. To purchase reprints, contact BLI at (201) 488-0404 (x17) or at info@buyerslab.com.

EASE OF NETWORK SETUP

VERY GOOD

+ During installation, the SmartDeviceMonitor utility automatically locates the device and displays the IP address, allowing the administrator to simply select it to create the port, and automatically detects the installed hardware when using the PCL and RPCS drivers. For the Adobe PostScript driver, the configured options must be manually specified by the user.

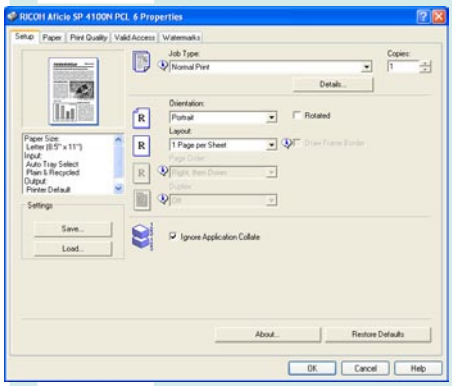
PRINT DRIVERS

EXCELLENT

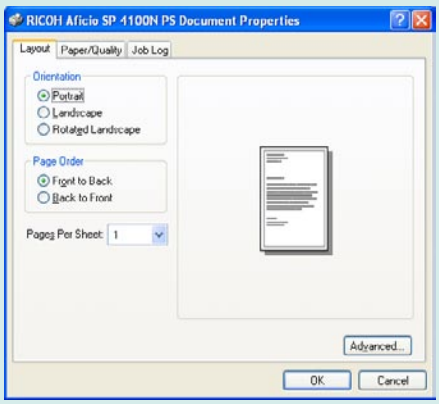
+ The Ricoh Aficio SP 4100N ships with four print drivers (proprietary Ricoh RPCS, Adobe PostScript 3, PCL 5c and PCL 6). The drivers are well laid out and easy to use on the Windows XP platform tested and offer a feature set typical of most high-end printers.

+ The PCL and RPCS drivers are very graphical and offer most of the commonly used selections on the main screen. The Adobe PostScript driver is typical of PostScript drivers in that users must access additional tabs to make common print job selections.

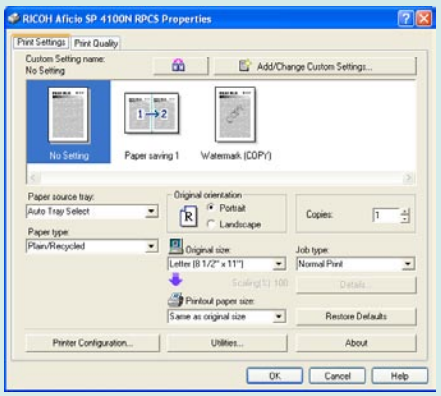
○ Although not uncommon, the appearance and layout of the PCL, Adobe PostScript and RPCS drivers differ.



PCL 6 Driver



PostScript 3 Driver



RPCS Driver

+ The RPCS driver allows users to save print driver selections under custom icons for one-click selection of commonly used print settings.

+ The RPCS driver has a print quality summary feature that allows the user to view all print quality selections before sending a job to the printer. This

This report has been reproduced with the written permission of Buyers Laboratory Inc. Any duplication of this report, in whole or part, in any form or manner, without the written permission of Buyers Laboratory, is unlawful and violators will be prosecuted. © 2007 Buyers Laboratory Inc. To purchase reprints, contact BLI at (201) 488-0404 (x17) or at info@buyerslab.com.

feature allows the user to confirm the print quality selections by selecting the Print Quality Summary tab in the driver.

APPLICATIONS COMPATIBILITY

EXCELLENT

+ No problems were experienced with any of the test files used in the applications compatibility tests. Units are tested for compatibility on the Windows XP platform with Microsoft Word 2000, Microsoft PowerPoint 2000, Microsoft Excel 2000, Adobe PageMaker 7.0, Adobe Photoshop 6.0 and Adobe Acrobat 6.0 using 25 application test files, which contain text, graphics, halftone images, tables, etc., enabling BLI technicians to evaluate memory usage, file processing, font rendering and grayscale capability.

IMAGE QUALITY

VERY GOOD

+ Output produced by the Ricoh Aficio SP 4100N was very good overall; text was excellent, with crisp and cleanly formed characters, even at 6-point font sizes; circular lines were smooth and of consistent line weight; and diagonal lines were smoothly formed, with no stair-stepping evident. Solids were also excellent, characterized by smooth, dark fill areas, with consistent toner coverage and good density readings.

– Halftones were visible over a “Fair” range, from the 3 to 89 percent dot-fill levels; however, transitions between some levels were not distinct. Toner coverage within dot-fill areas was consistent.

PRODUCTIVITY

VERY GOOD

+ Overall simplex print efficiency demonstrated in testing is above average when compared to comparable models in this speed range tested to date. Overall duplex print efficiency is the highest of printers in this class tested to date.

+ First-print times for all the file types used in testing (Word, PowerPoint, TIFF, PDF and JPEG) are competitive to faster than average when compared to those of comparable models tested.

+ When printing from the PostScript driver, the SP 4100N processed BLI’s 19-page job stream at 55.86 percent of its rated engine speed, which is above average compared to competitive monochrome printers tested.

LAB TEST

This report has been reproduced with the written permission of Buyers Laboratory Inc. Any duplication of this report, in whole or part, in any form or manner, without the written permission of Buyers Laboratory, is unlawful and violators will be prosecuted. © 2007 Buyers Laboratory Inc. To purchase reprints, contact BLI at (201) 488-0404 (x17) or at info@buyerslab.com.

○ When printing from the PCL driver, the SP 4100N processed BLI's 19-page job stream at 64.82 percent of its rated engine speed, which is slightly below average for competitive monochrome printers tested. However, when printing from the RPCS driver, the SP 4100N completed the job stream at a competitive 70.81 percent of its rated engine speed.

EASE OF USE

VERY GOOD

Ricoh Aficio SP 4100N Control Panel

+ Two drivers—the RPCS and PCL 6 drivers—are loaded by default using the Ricoh quick-install routine, as well as SmartDeviceMonitor for Client; however, users must perform separate installations to install the Adobe PostScript 3 driver or SmartDeviceMonitor for Admin. The default installation takes only four clicks of the mouse.

+ Specifying job requirements from the well-designed print drivers was easy.

+ Further enhancing ease of use is the excellent feedback on device and print job status provided by the SmartDeviceMonitor utility.

+ Replacing the toner cartridge and drum in the Ricoh Aficio SP 4100N is a clean and straightforward procedure and procedures for loading paper and removing misfeeds are very simple.

FEATURE SET

VERY GOOD

+ While the Ricoh Aficio SP 4100N's standard memory of 192 MB is more than three times the average, its maximum memory capacity of 384 MB is 10 percent higher than the average for workgroup printers in this speed range.

+ While the standard paper capacity of 600 sheets is above average for printers in this class, the maximum paper capacity of 1,600 sheets is competitive with the average for models in this class.

+ An optional 40-GB hard drive is available for added storage functionality.

SECURITY/ACCESSIBILITY

NOT RATED

+ The Locked Print option allows users to send a print job directly to the printer memory. The print job can be printed only after the user types a PIN into the printer control panel. After the job is printed, the job is no longer displayed on the control panel but it is still held in the printer

LAB TEST

This report has been reproduced with the written permission of Buyers Laboratory Inc. Any duplication of this report, in whole or part, in any form or manner, without the written permission of Buyers Laboratory, is unlawful and violators will be prosecuted. © 2007 Buyers Laboratory Inc. To purchase reprints, contact BLI at (201) 488-0404 (x17) or at info@buyerslab.com.

memory; the job can only be deleted using the password or by powering off the printer.

+ Using SmartDeviceMonitor, the administrator can lock control panel menus to prevent unauthorized changes to the device configuration.

+ SmartDeviceMonitor encrypts data sent to the printer via Internet Printing Protocol (IPP) with Secure Sockets Layer/Transport Layer Security (SSL/TLS) technology, thus protecting data transmission from being intercepted by outside sources.

+ The optional DataOverwriteSecurity System automatically overwrites image data three times, conforming to National Security Agency (NSA) methods for managing sensitive information.

TONER YIELD

EXCELLENT

+ The tested toner yield of the Aficio SP 4100N's black toner cartridge is 30 percent higher than the average for tested models in this speed range.

VALUE

VERY GOOD

+ The Ricoh Aficio SP 4100N is priced more than $100 less than the average for comparably equipped printers in this speed range and its cost per page is almost 25 percent less than the average for competitive workgroup laser and LED printers tested.Supporting Test Data

This report has been reproduced with the written permission of Buyers Laboratory Inc. Any duplication of this report, in whole or part, in any form or manner, without the written permission of Buyers Laboratory, is unlawful and violators will be prosecuted. © 2007 Buyers Laboratory Inc. To purchase reprints, contact BLI at (201) 488-0404 (x17) or at info@buyerslab.com.

SUPPORTING TEST DATA

Test Environment

The product has been tested in BLI's 10,000-square-foot test lab, in an environment monitored by a Honeywell Temp/RH chart recorder, which replicates typical office conditions.

Test Equipment

BLI's dedicated test network, consisting of Windows 2000 servers, Windows XP workstations, 10/100BaseTX network switches and CAT5 cabling.

Test Duration

Products are tested for two months, a portion of which consists of a durability test during which the product is run at its manufacturer-rated maximum monthly volume, with daily volumes evenly divided over the course of the test.

Tested Configuration

SP 4100N configuration, which includes 192 MB of RAM, one 500-sheet paper drawer and a 10/100BaseTX Ethernet interface, as well as the optional duplex unit and an additional 500-sheet paper drawer.

Test Procedures

The test methods and procedures employed by BLI in its lab testing include BLI's proprietary procedures and industry-standard test procedures. In addition to a number of proprietary test documents, BLI uses an industry-standard KATUN test original for evaluating black image quality and test suites from Quality Logic to evaluate applications compatibility. In addition to a visual observation, density of black output is measured using an X-Rite 428 Densitometer. Georgia-Pacific Spectrum Multi-Use 20-lb. bond is used in the tests, 10 percent of which is recycled paper containing 30 percent post-consumer content. Image quality is tested using Georgia-Pacific Printing Paper (95 brightness, 22-lb. bond).

Buyers Laboratory Inc. ▪ 20 Railroad Avenue ▪ Hackensack, NJ 07601 ▪ USA ▪ (201) 488-0404

Michael Danziger, *CEO*
Mark Lerch, *COO*
Anthony F. Polifrone, *Managing Director*
Daria M. Hoffman, *Managing Editor*
Lynn Nannariello, *Assistant Managing Editor*
Marlene Orr, *Printer Industry Analyst*
Ben Curry, *Associate Editor, Solutions*
Tracie Hines, *Associate Editor*
George Mikolay, *Associate Editor*
Carl Schell, *Associate Editor*
Lisa Reider, *Research Editor*
Marc Bussanich, *Technical Analyst*
Pete Emory, *Manager of Laboratory Testing*
Pia Beddiges, *Manager of Competitive Services*
Ken Nardone, *Technical Manager, Field Testing*
Anthony Marchesini, *IT Director*
T. R. Patrick, *Art Director*

This report has been reproduced with the written permission of Buyers Laboratory Inc. Any duplication of this report, in whole or part, in any form or manner, without the written permission of Buyers Laboratory, is unlawful and violators will be prosecuted. © 2007 Buyers Laboratory Inc. To purchase reprints, contact BLI at (201) 488-0404 (x17) or at info@buyerslab.com.

RELIABILITY

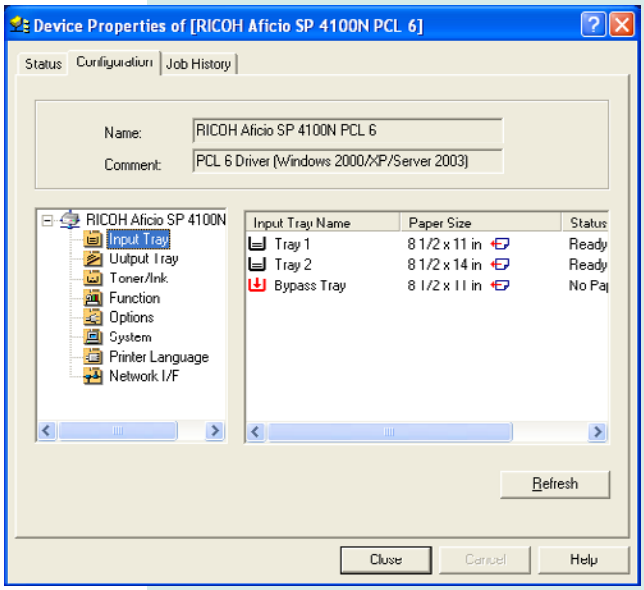
PMs/Malfunctions	Service Required	Meter Count (Impressions)	Impressions Between Service
Meter count (beginning of test)		0	
End of test period		75,000	
Total misfeeds/misfeed rate	0/Not applicable		
Total Service Calls	0		

ADMINISTRATIVE UTILITIES

SmartDeviceMonitor comes in two versions—SmartDeviceMonitor for Admin and SmartDeviceMonitor for Client—and allows administrators to discover, manage and create groups of printers and multifunction products on the network. The SmartDeviceMonitor for Admin utility will search the network by IP/SPX protocol and locate all of the printers on the network. Once the devices are located, the administrator can double-click on any device to access a window showing the status of that device. There are three tabs displayed—Status, Configuration and Job History—and the displays are the same as with the SmartDeviceMonitor Client version. Status displays the current status of the device; Configuration gives the administrator selections to display information about the device, the trays available and the amount of paper in each of the tray, as well as the options the device supports; System Info displays basic system information about the device; Print Language displays the resident PDL on the device; and Network I/F displays the IPX or IP information of the device. Job History displays a history of print jobs printed on the device. More information is provided for Ricoh and compatible devices than for other vendors' output devices. For example, other vendors' products will be identified, but the status information will not be as detailed as with Ricoh products.

When using SmartDeviceMonitor for Admin, the administrator can create groups of printers, lock the control panel, configure printer settings and manage the Ricoh Aficio SP 4100N, as well as any other compatible device on the network—printer or multifunctional—with an embedded Web page. Energy-save mode settings can also be adjusted, toner supply can be monitored and job histories can be viewed.

This report has been reproduced with the written permission of Buyers Laboratory Inc. Any duplication of this report, in whole or part, in any form or manner, without the written permission of Buyers Laboratory, is unlawful and violators will be prosecuted. © 2007 Buyers Laboratory Inc. To purchase reprints, contact BLI at (201) 488-0404 (x17) or at info@buyerslab.com.



SmartDeviceMonitor For Client

SmartDeviceMonitor for Client, which automatically creates the printer port on the client workstation, allows monitoring of the device and provides feedback regarding print job status and error and/or warning conditions to users. Print log details are accessible from SmartDeviceMonitor for Admin, SmartDeviceMonitor for Client (only the user's own print log) and the embedded Web page of the Aficio SP 4100N. The Aficio SP 4100N has the capability to have all of the print jobs stored on the hard drive and then spooled to the engine, in much the same way a print server would in a larger environment. In the case where there are a large number of users directly printing to the unit, this capability regulates data flow, preventing bottlenecking of multiple print jobs sent to the unit. The administrator can view this spool file and delete jobs from the hard drive.

Feedback to the workstation is also provided by the SmartDeviceMonitor utility, provided it has been installed on the workstation. The user can configure the utility to send pop-up messages and specify whether or not to start the utility at all. The user can configure the SmartDeviceMonitor utility to function with only one or all of the Aficio SP 4100N print drivers loaded on the local workstation. The "Extended Features" selection of SmartDeviceMonitor enables the user to specify the conditions to monitor and when notification via pop-up windows is desired. The selections available are: "Notify of printout/data transmission," which launches a pop-up window whenever a print job is sent and upon completion of a job; "Notify of printout/data transmission cancellation" and "Notify when errors occur while printing."

When SmartDeviceMonitor is launched, its icon appears on the taskbar tray. When the user right-clicks on the icon, the menu shows each of the drivers associated with SmartDeviceMonitor. If the user selects one of the drivers, the Properties screen for that driver will open. There are three tabs for the user to select from: the Status tab, which shows a graphical representation of the device and its options, along with the current status of the device; the Configuration tab, which graphically displays the configuration of the device (Input Tray, Output Tray, Toner, Function, Option, System, Printer Language and Network I/F) as icons that, when selected, display a detailed description of the feature (such as the amount of toner remaining in the cartridge); the Job History tab, which lists completed print jobs and the status of pending print jobs (SmartDeviceMonitor for Client lists jobs for the current user, while the Admin version lists jobs for all users). The display shows User Name, Document Name, Status, Pages, Started At (date and time) and User ID.

This report has been reproduced with the written permission of Buyers Laboratory Inc. Any duplication of this report, in whole or part, in any form or manner, without the written permission of Buyers Laboratory, is unlawful and violators will be prosecuted. © 2007 Buyers Laboratory Inc. To purchase reprints, contact BLI at (201) 488-0404 (x17) or at info@buyerslab.com.

Embedded Web page:

Yes. The Ricoh Aficio SP 4100N's embedded Web page offers device status information, including paper size and a gauge representing the amount of paper in each drawer, a toner gauge and a temporary job history, as well as a listing of current settings and error messages. The Administrator mode of the embedded Web page is password-protected, so that only authorized users can make changes to the device.

Consumables monitoring:

Yes, via the embedded Web page (Web Image Monitor) or SmartDeviceMonitor. The user or administrator can view remaining life of consumables, which includes a gauge representing the approximate percentage of toner remaining and the size and approximate amount of paper in each drawer.

PRINT DRIVERS

Ricoh Aficio SP 4100N PRINT DRIVER FEATURES

Features	RPCS	PCL 6	PostScript
Auto Feature/Device Detection	Yes	Yes	No
Booklet Printing	No	No	No
Collate Sets	Yes	Yes	Yes*
Max Paper Sources Per Job	2	3	1
Mirror Image	No	No	Yes
Negative Image	No	No	Yes
N-up Printing	2 to 16	2 to 16	2 to 16
Overlays	Yes	No	No
Paper Gauge	No	No	No
Print and Hold	No	No	No
Proof Print	No	No	No
Quantity Selection	1 to 999	1 to 999	1 to 9,999
Reduction/Enlargement	Auto, 20% - 300%	Auto, 25% - 400%	Auto, 1% - 1,000%
Resolution Modes (dpi)	Quality, Speed	600 x 600, 1200 x 600	600 dpi, 1200 dpi
Save Settings	Yes	Yes	No
Secure Print	No	No	No
Watermarks/Custom Watermarks	Yes/Yes	Yes/Yes	Yes/No

* *Although there is a collate selection in the print driver, it did not function in testing; the collate selection must be made from the Windows print screen within an application for output to be collated. This is not uncommon, as most drivers are written to allow the application settings to override the driver settings.*

This report has been reproduced with the written permission of Buyers Laboratory Inc. Any duplication of this report, in whole or part, in any form or manner, without the written permission of Buyers Laboratory, is unlawful and violators will be prosecuted. © 2007 Buyers Laboratory Inc. To purchase reprints, contact BLI at (201) 488-0404 (x17) or at info@buyerslab.com.

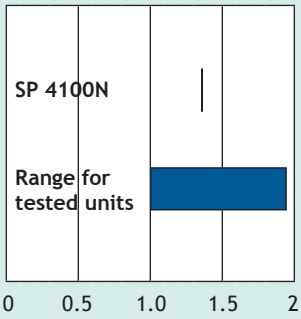
Send once/print many:

Although there is a collate selection in the driver, it did not function in testing. For output to be properly collated, the collate selection must be made from the Windows print screen within an application; doing so, however, does not increase file size.

IMAGE QUALITY

Text	Excellent
Line art	Very Good
Halftone range	Fair
Halftone fill	Good
Solids	Excellent

Print density



Black density:

1.35 to 1.37.

Density for units in this class tested to date:

1.00 to 1.94.

Measurements are based on four readings corresponding to four different solid black locations on the output. The higher the density reading, the darker the image.

Halftone range:

Grayscale is clearly visible from the 3% to 88% dot-fill levels, with consistent toner coverage within levels, though not all transitions between levels were distinct.

Typical halftone range for monochrome laser/LED printers:

3% to 90%.

LAB TEST

This report has been reproduced with the written permission of Buyers Laboratory Inc. Any duplication of this report, in whole or part, in any form or manner, without the written permission of Buyers Laboratory, is unlawful and violators will be prosecuted. © 2007 Buyers Laboratory Inc. To purchase reprints, contact BLI at (201) 488-0404 (x17) or at info@buyerslab.com.

PRODUCTIVITY

TESTED FIRST-PRINT TIMES (seconds)

PCL 6

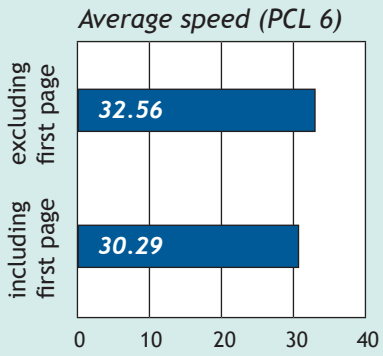
Windows XP	Word	PowerPoint	Photoshop	Acrobat	Photoshop
File type	Black Text	Color Graphic/ Text	Color Graphic	Black Graphic/ Text	Color Graphic
File extension	DOC	PPT	TIF	PDF	JPG
Pre-Raster File Size	114 KB	99 KB	20 MB	426 KB	248 KB
Post-Raster File Size	43.8 KB	100 KB	941 KB	129 KB	62.8 KB
First-Page Time	10.41	10.54	16.06	11.46	12.47

The Ricoh Aficio SP 4100N's print speeds were tested at the default 600-dpi resolution using the PCL 6 drivers.

First-print time indicates the time it took to RIP an image and deliver the first page of the test document set to the output tray.

Ricoh Aficio SP 4100N's rated speed:
31 ppm

BLI'S TESTED PRINT SPEEDS

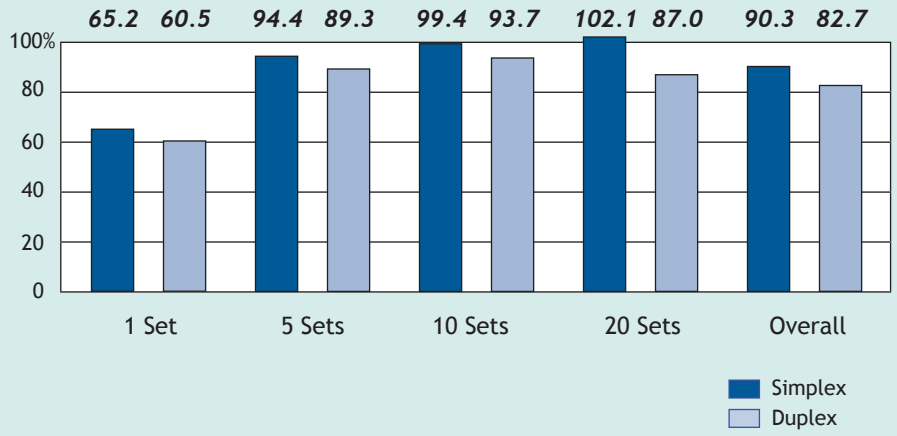


Print speed is tested using BLI's Monochrome Test Original (with 6% page coverage). The test page is printed in a quantity equal to double the vendor's rated print speed for the device in each mode tested (e.g., if the vendor's rated print speed is 20 ppm, 40 pages are printed). The Ricoh Aficio SP 4100N's print speeds were tested at the default 600-dpi resolution using the PCL 6 driver.

LAB TEST

This report has been reproduced with the written permission of Buyers Laboratory Inc. Any duplication of this report, in whole or part, in any form or manner, without the written permission of Buyers Laboratory, is unlawful and violators will be prosecuted. © 2007 Buyers Laboratory Inc. To purchase reprints, contact BLI at (201) 488-0404 (x17) or at info@buyerslab.com.

Print Efficiency



BLI obtains the overall efficiency percentage by dividing the tested speed of the device by the rated speed and then multiplying by 100 for each run length. All jobs are based on a 10-page document printed at 600 dpi using the PCL 6 print driver.

Job Stream Evaluation

A job stream consisting of nine files (a mix of Word, Excel, HTML, PowerPoint and e-mail) is sent to a paused print queue. All files are monochrome or monochrome and mixed color and consist of five or fewer pages (total of 19 pages). Timing begins when the queue is released and ends when the last page of the job stream completely exits the device.

Time to completion of all print jobs (PostScript): 1 minute, 5.83 seconds.

Time to completion of all print jobs (PCL 6): 56.73 seconds.

Time to completion of all print jobs (RPCS): 51.93 seconds.

Range for monochrome printers tested to date:
30.17 seconds to 15 minutes, 1.88 seconds.

Problems encountered:
Pausing with the PDF and HTML documents.

LAB TEST

This report has been reproduced with the written permission of Buyers Laboratory Inc. Any duplication of this report, in whole or part, in any form or manner, without the written permission of Buyers Laboratory, is unlawful and violators will be prosecuted. © 2007 Buyers Laboratory Inc. To purchase reprints, contact BLI at (201) 488-0404 (x17) or at info@buyerslab.com.

TONER YIELD

TESTED TONER YIELD / SUPPLIES COST PER PAGE

Color	Net Weight (Grams)	Yield (Impressions)	Impressions Per Gram	Toner Cost Per Page[1]	Supplies Cost Per Page[2]
Black	386.1	21,018	54.4	0.892¢	1.111¢

[1] *Toner cost per page is based on Ricoh's pricing for the print cartridge and the tested toner yield using the ISO 19752 toner yield test original with 5% page coverage.*

[2] *The supplies cost per page is based on Ricoh's pricing, BLI's tested toner yield for the print cartridge and Ricoh's rated yield for the maintenance kit.*

LAB TEST

This report has been reproduced with the written permission of Buyers Laboratory Inc. Any duplication of this report, in whole or part, in any form or manner, without the written permission of Buyers Laboratory, is unlawful and violators will be prosecuted. © 2007 Buyers Laboratory Inc. To purchase reprints, contact BLI at (201) 488-0404 (x17) or at info@buyerslab.com.

Ricoh Aficio SP 4100N

31 ppm (mono / color) Desktop Laser, electrostatic

FAD 34741

US release:	April 2007
US SRP / Street:	$749 /$INA
Color Type:	Not applicable
Controller:	Ricoh
CPU / Bits / MHz:	RM5231/INA/400
Memory (std / max):	192 MB/384 MB
HDD:	Optional 40-GB
PDLs:	PCL 5e/6, Adobe PostScript 3, Ricoh RPCS

■ ENGINE

Mfr / Model / Country:	Ricoh/ SP4100N/ China
Monthly Duty Cycle:	100,000 impressions
Rated Engine Life:	INA

■ RESOLUTION

Standard:	600 x 600 dpi
Enhanced:	1200 x 600 dpi

■ INTERFACE / CONNECTIVITY

Client OS Spt:	Win 9x/Me/NT 4.0/2000/XP/Server 2003, Mac OS X v10.2+, UNIX, Linux
Network Spt:	TCP/IP, IPX/SPX, SMB, Appletalk,
Std Interface:	10/100BaseTX Ethernet, USB 2.0, Parallel
Opt Interface:	802.11b Wireless,
Printer Mgmt:	SmartDeviceMonitor, WebImageMonitor, Remote Intelligent Management System

COMMENTS: First page out time 6.9 sec; warm up time 19 sec; IS200e Image Scanner (MFP upgrade option) enables scan-to-print, email, folder, FTP and TWAIN scanning

PAPER HANDLING

Std/Max Paper Source(s):	2/3
Std/Max Paper Capacity:	600 sheets/1,600 sheets
Paper Size (W x L):	8.5" x 14" max
Print Area (W x L):	INA max
Paper Weights:	16-lb to 34-lb bond
Std Output Capacity:	250 sheets
Other Output:	None
Bypass (Capacity / Weight):	100 sheets/16-lb to 43-lb bond
Automatic Duplexing:	Optional

FEATURES

Collation:	Standard
Color Depth (Bits):	Not applicable
Color Management:	Not applicable
Fonts:	136 PostScript, PCL, 10 truetype, 35 intelli, 1 bitmap, 13 international,
IPP (Web) Support:	Standard
RIP Once / Print Many:	Standard
Secure Printing:	Optional
Other:	PDF direct print

ADDITIONAL INFORMATION

Display / Characters:	LCD/32
Energy Star Compliance:	Yes
Noise Level (Print / Idle):	65 dB / 42 dB
Power Consumption:	575W max
Power Reqs (V / Hz / Amps):	120/60/INA
Warranty:	One-year warranty
Weight (Base Unit):	44 lbs
Dimensions (H x W x D):	13.6" x 15.3" x 17.8"

OPTIONS

2 x 500-sheet paper feed unit:	$275
Duplex unit:	$195
Envelope feeder:	$120
Hard-disk type 2650:	$400
128-MB memory:	$360
256-MB memory:	$430
IEEE 802.11b wireless:	$385
Gigabit ethernet interface:	$325
VM card:	$99
Data storage card:	$38
HDD overwrite security unit:	$275
IS200e image scanner/table:	$1,750/$300

SUPPLIES

Toner (402809): Black: $187.50; yield-15,000 pages; coverage-5%
Maintenance kit (402815): Other: $197.25; yield-90,000 pages; coverage-5%

This report has been reproduced with the written permission of Buyers Laboratory Inc. Any duplication of this report, in whole or part, in any form or manner, without the written permission of Buyers Laboratory, is unlawful and violators will be prosecuted. © 2007 Buyers Laboratory Inc. To purchase reprints, contact BLI at (201) 488-0404 (x17) or at info@buyerslab.com.

CERTIFICATE OF RELIABILITY

AWARDED TO

RICOH AMERICAS CORPORATION

For the performance of the

Ricoh Aficio SP 4100N

throughout BLI's in-house durability test.

This is to certify that when subjected to a 75,000-impression
Buyers Lab durability test in a networked environment,
the Ricoh Aficio SP 4100N proved to be a highly reliable product.

ANTHONY F. POLIFRONE
MANAGING DIRECTOR

June 2007
DATE

BUYERS LABORATORY INC
BLI
RELIABILITY CERTIFIED
TESTED

THE LEADING INDEPENDENT OFFICE PRODUCTS TEST LAB AND BUSINESS CONSUMER ADVOCATE

BUYERS LABORATORY INC. • 20 RAILROAD AVENUE • HACKENSACK, NJ 07601 • USA • WWW.BUYERSLAB.COM

Copyright 2007 Buyers Laboratory. This certificate has been reproduced with the written permission of BLI.